

10/18 #11



O I P E

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/907,907A

DATE: 10/21/2002
TIME: 15:32:33

Input Set : A:\EP.txt
Output Set: N:\CRF4\10212002\I907907A.raw

ENTERED
p. 6

4 <110> APPLICANT: Fisher, Paul B.
5 Leszczyniecka, Magdalena
7 <120> TITLE OF INVENTION: GENES DISPLAYING ENHANCED EXPRESSION DURING CELLULAR
SENESCENCE AND
8 TERMINAL CELL DIFFERENTIATION AND USES THEREOF
11 <130> FILE REFERENCE: A34584-A-PCT-USA (070050.1664)
C--> 13 <140> CURRENT APPLICATION NUMBER: US/09/907,907A
C--> 14 <141> CURRENT FILING DATE: 2001-07-16
16 <150> PRIOR APPLICATION NUMBER: US 09/243,277
17 <151> PRIOR FILING DATE: 1999-02-02
19 <160> NUMBER OF SEQ ID NOS: 51
21 <170> SOFTWARE: FastSEQ for Windows Version 4.0
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 674
25 <212> TYPE: DNA
26 <213> ORGANISM: Homo sapiens
28 <220> FEATURE:
29 <221> NAME/KEY: unsure
30 <222> LOCATION: 534, 590
31 <223> OTHER INFORMATION: a or g or c or t
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35 gccttttga agaaaactcca cgaaggagaa atccaggagc tgcaggctca gattcaggaa 120
36 cagcatgtcc aaatcgatgt ggatgttcc aagcctgacc tcacggctgc cctgcgtgac 180
37 gtacgtcagc aatatgaaag tgtggctgcc aagaacctgc aggaggcaga agaatggtac 240
38 aaatccaagt ttgctgaccc ctctgaggct gccaaccgga acaatgacgc cctgcgccag 300
39 gcaaaggcagg agtccactga gtaccggaga caggtgcagt ccctcacctg tgaagtggat 360
40 gcccttaaag gaaccaatga gtccctggaa cgccagatgc gtgaaatggaa agagaacttt 420
41 gccgttgaag ctgctaaacta ccaagacact attggcccgctg ctcaggatg agattcagaa 480
W--> 42 tatgaaggag gaaaatggctc gtcacccctcg tgaataccaa gacctgctca atgntaagat 540
W--> 43 gccccttgac attgagattt ccacccatcg gaagctgctg ggaaggcgc gagaaggcagg 600
44 tttctctgct cttccaaact tttccctcctt gacccctgagg gaaactaattc tggattcact 660
45 ccctcttggg taaa 674
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48 <211> LENGTH: 678
49 <212> TYPE: DNA
50 <213> ORGANISM: Homo sapiens
52 <220> FEATURE:
53 <221> NAME/KEY: unsure
54 <222> LOCATION: 566, 669
55 <223> OTHER INFORMATION: a or g or c or t
57 <400> SEQUENCE: 2
58 aattccggcac gagcaggacc caaggaacca aaattgcatt tgatggctc aagggtcg 60
59 tggttgaagt gagtcttgct gatttgcaga atgtatgaagt tgcatttagaa aattcaagct 120

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60 gattactgaa gatgttcagg gtaaaaactg cctgactaac ttccatggca tggatcttac 180
 61 ccgtgacaaa atgtgttcca tggtaaaaa atggcagaca atgattgaag ctcacgttga 240
 62 tgtcaagact accgatggtt acttgcttcg tctgttctgt gtgggtttta ctaaaaaacg 300
 63 caacaatcag atacggaaga cctttatgc tcagcaccaa caggtccgc aaatccgaa 360
 64 gaagatgatg gaaatcatga cccgagaggt gcagacaaat gacttggaaag aagtgtcaa 420
 65 taaattgatt ccagacagca ttggaaaaga catagaaaag gcttgc当地 ctatttatcc 480
 66 tctccatgt gtcttcgtta gaaaagtaaa aatgctgaag aagcccaagt ttgaattggg 540
 W--> 67 aaagctcatg gagtttcatg gtgaanggca gtagttctgg aaaaagccac ttgggacga 600
 68 aacaggtgtc aaaagtgtc acgactgtatg gatattgaac cccagtc当地 gaatctggg 660
 W--> 69 aaaggtcana cttcaat 678
 71 <210> SEQ ID NO: 3
 72 <211> LENGTH: 670
 73 <212> TYPE: DNA
 74 <213> ORGANISM: Homo sapiens
 76 <220> FEATURE:
 77 <221> NAME/KEY: unsure
 78 <222> LOCATION: 656
 79 <223> OTHER INFORMATION: a or g or c or t
 81 <400> SEQUENCE: 3
 82 aattcggcac gaggatgatg accttcaaga aatgaagac aataaacaac ataaagaaaag 60
 83 cttgaaaaga gtgacccttg ctttaccaga ttagtgc当地 actgaagata caggtgtttt 120
 84 aatgtaaag aaaaattctg atgaagttaa atcctcctt gaaaaaagac aggaaaagat 180
 85 gaatgaaaaa attgcatctt tagaaaaaaga gttgttagaa aaaaagccgt ggcaacttca 240
 86 ggggaagtg acagcacaga agaggccaga gaacagccctc ctggaggaga ccctacactt 300
 87 tgaccatgtc gtccggatgg cacctgtat tacagaggaa accacccttc aactgaaaga 360
 88 tattcattaaa cagaggataa gagatcaggc ttggatgtat gtagtacgt aagaaaaacc 420
 89 taaagaggat gcatatgaat ataaaaagcg ttaaccttta gaccatgaga agatcaaatt 480
 90 gaggcttgc当地 gaaattttatg aacaggatgat catcaaactc aaccagcaaa aaacagcaga 540
 91 agaagaaaat ccagaacatg tagaaattca gaagatgatg gattccctct tcttaattt 600
 W--> 92 gatgcctctc aaacttccct ttatccctta accgc当地 gtagattaa agttgggccc 660
 93 aaatctgcca 670
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 96 <211> LENGTH: 675
 97 <212> TYPE: DNA
 98 <213> ORGANISM: Homo sapiens
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 101 <221> NAME/KEY: unsure
 102 <222> LOCATION: 530, 534, 650, 651, 655
 103 <223> OTHER INFORMATION: a or g or c or t
 105 <400> SEQUENCE: 4
 106 aattcggcac gagatctgtc gcaaggccaa aatgttatg agaaggaact gggccgc当地 60
 107 ctaagggatg ccccttcagg cataggcagt attttctgt cagcatctga gcttggaggat 120
 108 ggtatgtggg aatggccca gggcgc当地 agctccagtc ccagagagct cctctctaa 180
 109 tcagagcaac tgaactgaga cagaggagga aaacagagca tcagaagctc gcaatgggg 240
 110 ttgtgacggg taggaggata ggaagacagg gggccccaac ctgggattgc tgaggcaggaa 300
 111 agctttgc当地 gttgctctaa ggtacatttt taaagatgtt ttttttggcc gggcgc当地 360
 112 gctcatgc当地 gtaatcccag cacttggga ggc当地 gaggtg ggc当地 gatc当地 gaggtctgg 420
 113 gttgagacc atcctggctaa acacagtgaa atccctc当地 tactaaaat acaaaaaatt 480
 W--> 114 agccaggcgt ggtggctggc acctgtatc ccagctactt gggagctgan gcangagaat 540

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115 ggcgtgaacc tggaaggaag aagttgcagg tgagcccaag attgcgcccc cttgcactcc 600
 W--> 116 agctggcaa cagagcaaga cttcatctca aaaaaaaaaa aaaaaaactn ncggnggggg 660
 117 gccccccgggc cccca 675
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 120 <211> LENGTH: 460
 121 <212> TYPE: DNA
 122 <213> ORGANISM: Homo sapiens
 124 <220> FEATURE:
 125 <221> NAME/KEY: unsure
 126 <222> LOCATION: 411, 412, 415, 416, 423, 430, 433, 439, 442, 446, 452, 454,
 127 456, 457
 128 <223> OTHER INFORMATION: a or g or c or t
 130 <400> SEQUENCE: 5
 131 aattcggcac gagcacctct gtgtctacca tgacccctt cctcacactg acctgtgttc 60
 132 cttccctgtt ctctttcta ttaaaaataa gaacctgggc agagtgcggc agctcatgcc 120
 133 tgaatccca gcacttaggg aggccgagga gggcagatca cgaggtcagg agatcgaaac 180
 134 catcctggct aacacggtga aacccctct ctactaaaaa atacaaaaaa ttagctggc 240
 135 gcagaggcac gggcctgttag tcccagctac tcaggaggcg gaggcaggag aatggcgtca 300
 136 acccgggagg cggaggttgc agtgagccag gattgtgcga ctgcactcca gcctgggtga 360
 W--> 137 cagggtgaaa cgccatctca aaaaataaaa attaaaaaaa aaaaaaaaaa nntcnnggg 420
 W--> 138 ggncccggtt ccnatttcnc cntatnggg a gncntnncaa 460
 140 <210> SEQ ID NO: 6
 141 <211> LENGTH: 445
 142 <212> TYPE: DNA
 143 <213> ORGANISM: Homo sapiens
 145 <400> SEQUENCE: 6
 146 aattcggcac gagttctgcc catgctgcag acagtggca agaacaagga ccagggcacc 60
 147 tatgaggatt atgtcgaagg acttcgggtt tttgacaagg aaggaaatgg caccgtcatg 120
 148 ggtgctgaaa tccggcatgt tcttgcaca ctgggtgaga agatgacaga ggaagaagta 180
 149 gagatgctgg tggcagggca tgaggacagc aatggttga tcaactatga agagctgtc 240
 150 cgcatggtgc tgaatggctg aggaccttcc cagtcctccc agagtccgtg ccttccctg 300
 151 tgtgaatttt gtatctagcc taaagttcc cttagcttcc ttgtctcagc aactttccca 360
 152 tcttgcctct ctggatgat gtttgcgtc agcattcacc aaataaactt gctctctggg 420
 153 ccctcgaaaa aaaaaaaaaa aaaaa 445
 155 <210> SEQ ID NO: 7
 156 <211> LENGTH: 666
 157 <212> TYPE: DNA
 158 <213> ORGANISM: Homo sapiens
 160 <220> FEATURE:
 161 <221> NAME/KEY: unsure
 162 <222> LOCATION: 483, 498, 527
 163 <223> OTHER INFORMATION: a or c or g or t
 165 <400> SEQUENCE: 7
 166 aattcggcac gaggcaatgt gcttggttt aaagaaattc tccttggaa aaaagtatcc 60
 167 tcttttaatt ttactccca taagcgtaaa tgcctggaca tagctctgt gcaaccctta 120
 168 aataaaattgt ttgagtgtt ttttgcgtt cagacaaata atgtttaaa gttatcccct 180
 169 tgctacttta ctgataaccc ttatcattccct gagacagttt gctaattaa aaatgttagca 240
 170 ttccatattgt atttatttct ctcccttgc aaaaagattt tctaatactg cttgtaccag 300
 171 ccagagaaaatc atccaaaaca ctactcagct ctcttgcact gaggaaattt ttccccctac 360

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172 attgactcct ggcctacatc agccaaactt aaccttggtg gggtttggat ttgatagcca 420
 173 attagttctg tgctggttgc aaagaattga tatttagatg gtttttaata ctcagcagat 480
 W--> 174 **tgncatcctt tatattgnat cttttttatg ttgcattgtt cttttgtat cagcctgatt** 540
 175 ttttgcttag tatatgatag ttctgctgtat ggtttggta ttgggcagac atatcttcat 600
 176 taagagtttt tgaaaaactc atcaaattcg atgaatacat tttcttcata acccattgga 660
 177 aatatac 666
 179 <210> SEQ ID NO: 8
 180 <211> LENGTH: 409
 181 <212> TYPE: DNA
 182 <213> ORGANISM: Homo sapiens
 184 <400> SEQUENCE: 8
 185 aattcggcac gagcgaactac ggcggactaa tcttcaactc ctacatactt ccccccattat 60
 186 tcctagaacc aggcgacactg cgactcctt acgttgacaa tcgagtagta ctcccgattt 120
 187 aagccccat tcgtataata attacatcac aagacgtctt gcactcatga gctgtcccc 180
 188 cattaggctt aaaaacagat gcaattcccg gacgtctaaa ccaaaccact ttcaccgcta 240
 189 cacgaccggg ggtatactac ggtcaatgtt ctgaaatctg tggagcaaac cacagttca 300
 190 tgcccatcg cctagaatta attccctaa aaatcttga aatagggccc gtatttaccc 360
 191 tatagcaccc cctctacccct ctctagagca aaaaaaaaaa aaaaaaaaaa 409
 193 <210> SEQ ID NO: 9
 194 <211> LENGTH: 667
 195 <212> TYPE: DNA
 196 <213> ORGANISM: Homo sapiens
 198 <220> FEATURE:
 199 <221> NAME/KEY: unsure
 200 <222> LOCATION: 436, 663
 201 <223> OTHER INFORMATION: a or c or g or t
 203 <400> SEQUENCE: 9
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 205 agagggcaga acagagaaaa gctagacaaa atgataagat cagccatatt tcattttgaa 120
 206 tctgcagtgg aaaaaaaagcc cacattttagt gtggctcatc tagacctggc aagaatgtat 180
 207 atagaagca gcaatcacag aaaagctgaa gagaattttc aaaaattgtt atgcatgaaa 240
 208 ccagtggtag aagaaacaat gcaagacata catttccact atggcgggtt tcaggaattt 300
 209 caaaaagaaat ctgacgtcaa tgcaatttac cattattaa aagctataaa aatagaacag 360
 210 gcatcattaa caagggataa aagtatcaat tcttgaaga aattggttt aagggaaactt 420
 W--> 211 **cggagaaagg cattanactg gaaagcttga gcctccttgg gttcgctac aaatttggaaag** 480
 212 gaaaatatgaa tgaaggccctg gacttactatg agcggccct gagaactggct gctgacttt 540
 213 agactctgtg agacaaggc ctttagccca gatatcagcc ctttccattt catttcattt 600
 214 tatgctaaca ttactaattc atctttctg ctactgggtt tcagaacctt ataattccct 660
 W--> 215 **ggnatga** 667
 217 <210> SEQ ID NO: 10
 218 <211> LENGTH: 672
 219 <212> TYPE: DNA
 220 <213> ORGANISM: Homo sapiens
 222 <220> FEATURE:
 223 <221> NAME/KEY: unsure
 224 <222> LOCATION: 585
 225 <223> OTHER INFORMATION: a or c or g or t
 227 <400> SEQUENCE: 10
 228 aattcttcct gtacgattgg ggtataacg ggcttcacta accttcccta ggcattgaaa 60

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229 cttcccccaa atctgatgga cctagaagtc tgctttgta cctgctggc cccaaagttg 120
 230 ggcatttttc tctctgttcc ctctctttt aaaaatgtaaa ataaaaaccaa aaatagacaa 180
 231 ctttttcttc agccattcca gcatagagaa caaaccttat ggaaacagga atgtcaattt 240
 232 tgaatcatt gttctaatta ggttaataga agtccttatg tatgtgttac aagaatttcc 300
 233 cccacaacat ccttatgac tgaagttcaa tgacagttt gtttgggtgg taaaggattt 360
 234 tctccatggc ctgaattaag accattagaa agcaccaggg cgtgggagca gtgaccatct 420
 235 gctgactgtt cttgtggatc ttgtgtccag ggacatgggg tgacatgct cgtatgtgtt 480
 236 agaggggtgga atggatgtgt ttggcgctgc atggatctg gtgcccctct tctcctggat 540
 W--> 237 tcacatcccc acccaggggcc cgggtttact aagtgtctgc cctanattgg gtcaaaggag 600
 238 gtcatccaac tgactttatc aagtggaaatt gggatataatt tgatataactt ctggctaaca 660
 239 acatgggaaa ag 672
 241 <210> SEQ ID NO: 11
 242 <211> LENGTH: 672
 243 <212> TYPE: DNA
 244 <213> ORGANISM: Homo sapiens
 246 <220> FEATURE:
 247 <221> NAME/KEY: unsure
 248 <222> LOCATION: 585
 249 <223> OTHER INFORMATION: a or c or g or t
 251 <400> SEQUENCE: 11
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 253 cttcccccaa atctgatgga cctagaagtc tgctttgta cctgctggc cccaaagttg 120
 254 ggcatttttc tctctgttcc ctctctttt aaaaatgtaaa ataaaaaccaa aaatagacaa 180
 255 ctttttcttc agccattcca gcatagagaa caaaccttat ggaaacagga atgtcaattt 240
 256 tgaatcatt gttctaatta ggttaataga agtccttatg tatgtgttac aagaatttcc 300
 257 cccacaacat ccttatgac tgaagttcaa tgacagttt gtttgggtgg taaaggattt 360
 258 tctccatggc ctgaattaag accattagaa agcaccaggg cgtgggagca gtgaccatct 420
 259 gctgactgtt cttgtggatc ttgtgtccag ggacatgggg tgacatgct cgtatgtgtt 480
 260 agaggggtgga atggatgtgt ttggcgctgc atggatctg gtgcccctct tctcctggat 540
 W--> 261 tcacatcccc acccaggggcc cgggtttact aagtgtctgc cctanattgg gtcaaaggag 600
 262 gtcatccaac tgactttatc aagtggaaatt gggatataatt tgatataactt ctggctaaca 660
 263 acatgggaaa ag 672
 265 <210> SEQ ID NO: 12
 266 <211> LENGTH: 669
 267 <212> TYPE: DNA
 268 <213> ORGANISM: Homo sapiens
 270 <220> FEATURE:
 271 <221> NAME/KEY: unsure
 272 <222> LOCATION: 587, 595, 600, 660, 662
 273 <223> OTHER INFORMATION: a or c or g or t
 275 <400> SEQUENCE: 12
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 278 aagaacatga caaccaagca aatgtgagga gtctgggtgac ctggggcaac tttgcctgaa 180
 279 ttttattacca catggcaga ctggcagaag cccagactta cctggacaag gtggagaaca 240
 280 ttgcgttggaa gcttcaaat cccttccgtt atagaatggaa gtgtccagaa atagactgtg 300
 281 aggaaggatg ggccttgctg aagtgtggag gaaagaatta tgaacggggcc aaggcctgct 360
 282 ttgaaaaggt gcttgaagtg gaccctgaaa accctgaatc cagcgctggg tatggatct 420
 283 ctgcctatcg cctggatggc tttaaatttccacaaaaa tcacaagccaa ttttcttgc 480

RAW SEQUENCE LISTING ERROR SUMMARY
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 534,590
Seq#:2; N Pos. 566,669
Seq#:3; N Pos. 656
Seq#:4; N Pos. 530,534,650,651,655
Seq#:5; N Pos. 411,412,415,416,423,430,433,439,442,446,452,454,456,457
Seq#:7; N Pos. 483,498,527
Seq#:9; N Pos. 436,663
Seq#:10; N Pos. 585
Seq#:11; N Pos. 585
Seq#:12; N Pos. 587,595,600,660,662
Seq#:13; N Pos. 530,585,600,616,654,702
Seq#:16; N Pos. 6,7,14,359,383,449,456,459,473,501,504,515,518,528,532,535
Seq#:16; N Pos. 538,549,562,567,568,577,579,601,603,614,618,622,626,633,636
Seq#:16; N Pos. 641,678,683,692,708
Seq#:17; N Pos. 158,159,161,163,176,182,186,189,191,193,197,199,200,202,203
Seq#:18; N Pos. 479
Seq#:20; N Pos. 556,558,587
Seq#:21; N Pos. 389,396,400,409,418,429,463,468,520,556,575,591,594,613,635
Seq#:21; N Pos. 641,650,666,680,682,700,704
Seq#:23; N Pos. 21
Seq#:24; N Pos. 368,370,372,374,375,376,377,383,386,389
Seq#:26; N Pos. 386,389,390,397,404,409,413,416,424,426,430
Seq#:27; N Pos. 288,298,345,348,352,357,358,368
Seq#:29; N Pos. 495,508,511,526,530
Seq#:30; N Pos. 274,278,283,291,308,314,324,326,327,331,341,355,371,419,461
Seq#:30; N Pos. 531,534,545,558
Seq#:32; N Pos. 342,355,365,368,375,381,385,414,445
Seq#:33; N Pos. 434,459,460
Seq#:36; N Pos. 8
Seq#:37; N Pos. 546,553,573
Seq#:38; N Pos. 444,448,451,460,461,462,468,471,476,490,506,510,514,522,524
Seq#:38; N Pos. 535,550,563,567,568,573,579,587,590,592,593,596,608,615